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THE GENESEE FARMER.

SATURDAY, SEPTEMBER 3, 1836.

Sheep Worm.

Animals seem to have an instinctive knowledge and dread of their most dangerous enemies, and to understand the best method of escaping from them. Every one has noticed the agitation and uneasiness of the horse when attacked by the bot-fly; the flight of a drove of cattle when assailed by their enemy the gad-fly; and the terror of a flock of sheep when the buzzing of the fly which produces the sheep worm is heard among them. Sheep are frequently seen standing in circles as it were, their heads in the center and close to the earth; this is done that the fly may have a less favorable opportunity of approaching the nostrils, the point always selected for attack. For the same reason sheep frequent furrows that have been ploughed deep, as by holding the nose in these the blow of the fly is partially prevented; an effect also assisted by the dust, which thickening the mucus of the nose and the passages, enables the sheep to expel the new deposited insect by sneezing and blowing the nose. When in the hot months sheep are seen to fly with affright in all directions with their noses close to the ground, stop suddenly as if listening, and then either wait or run again, the presence of the fly among them may be considered as certain.

The fly which attacks sheep, is the *Œstrus* of the naturalist, of which there are several species, such as the *Œstrus equi*, so called from attacking horses; the *Œstrus bovis*, principally injuring cattle; the *Œstrus ovis*, which is the parent of the sheep worm, as well as kinds which infest deer, hares, &c. The sheep fly deposits its eggs in the nostrils of the sheep, where the larvæ is soon hatched, and immediately ascends into the frontal passages, attaching itself very strongly in its movements to the membrane lining the sinuses, by two strong hooks situated at its mouth. The worm, or grub, as it is sometimes called, is of a white color, very thick in the middle, and remains in the head until it arrives at its growth, when, if in sufficient numbers, it causes an irritation of the membranes, which extends to the brain and kills the sheep, or else is expelled from the nostrils, and taking refuge in the earth, remains until it experiences its final transformation into the perfect or winged insect, and is again ready to propagate the species. It is in June and July that the pupæ is transformed into the perfect insect, though much is depending on circumstances, their time of action frequently extending through the month of August.

The worm most frequently causes the death of the sheep during the winter or in the spring of the year, and when at such times sheep, without any apparent cause, gradually decline in flesh, become sickly and disinclined to eat, and finally die, an examination of the head will generally show that the worm *is* present. We suspect, however, that the sickness and death of sheep in the winter or spring, may be much oftener traced to want of food and proper care, than to the grub, to which such casualties are usually attributed. And even when the worm actually exists, unless it is in great numbers, it rarely proves fatal, except among the oldest and most infirm of the flock, unless its operation is aided by the causes to which allusion has been made. In a communication in the Farmer a year or two since, Mr. Rhoades of Skaneateles, mentions a worm found on the *lungs* of the sheep, fibrous or hairy, of considerable length, and frequently tied into knot-like masses, and which he considered as proceeding from those in the nostrils. This worm we have not seen, nor has it to our recollection been elsewhere noticed; and its existence we think should probably be attributed to some other cause than the one he assigns. At any rate, it would be a stage in the existence of the *Œstrus ovis* perfectly anomalous, and without a parallel in the history of any other species of the insect.

When once the insect has made his attack on a flock of sheep—when the egg is deposited and the larvæ has been hatched, and commenced his ascent into the head, his removal will be found difficult, if not impossible. Various remedies have been proposed, such as vinegar and spirits of turpentine injected into the head with force, or snuff blown violently up the nostrils. When the indications are such that the presence of the grub in the head cannot be mistaken, the adoption of such remedies as turpentine and vinegar may be justified, on the ground that unless cured death will usually ensue, and the injections into the head cannot but kill. Turpentine has been highly recommended, and from its well known effects in expelling worms from sores in other positions, it is evident that if it reaches the Œstrus its expulsion or death will be certain, yet in some extreme cases, in which we alone have tried it, it seemed to be wholly inefficacious. Vinegar we have never used. When the egg is first deposited, snuff thrown into the nostrils would probably produce the natural effect of either partially or entirely destroying the worm, as well as by causing a violent sneezing, produce its expulsion from the membranes or sinuses, of which it has but just taken possession.

The greatest reliance we still think for the prevention of the bad effects of the worm in in sheep, must be sought in means which shall render them safe from attack. Experience has shown that sheep in low wet grounds are more exposed to the fly, than on high, dry, and airy situations, the fly being much oftener found in the former situation than in the latter. The true course then indicated would be, to remove the sheep from such low and exposed situations during the two or three months the Œstrus is active, although correct policy would always exclude sheep from wet grounds or low damp places, such spots being found injurious to sheep in more ways than one. Another means of prevention, is to tar the noses of sheep just before the season of the fly commences, and repeating the operation once or twice while it lasts. All insects seem to have a dread of tar—dislike its smell, and are unwilling to approach it. By applying it to the muzzle and around the nostrils pretty liberally, no injurious effect need be apprehended. It is a good plan to occasionally smear the bottoms of the troughs from which the sheep take their salt, with tar, as there is danger in their coming in contact with it too frequently. The farmer who would prosper in raising sheep must see them frequently, and during those seasons when subject to any particular attack or disease, the attention should be fixed on those points whence the most danger is to be apprehended. G.

Ploughing in Straw.

Straw that has become fully ripe, contains but a very small portion of soluble matter, the remainder being insoluble fiber, which, except under particular circumstances, is not decomposed in the soil, under several years. For this reason it affors very little nutriment to growing plants, when ploughed under before it has undergone decomposition. Instead, therefore, of adopting the practice, which is now becoming so prevalent, of ploughing in straw in the early part of autumn, we would recommend that it be kept over winter for the purpose of preserving the soluble juices of barn-yard manure. Straw is always needed in winter as beds for domestic animals, contributing much to their health and cleanliness, and consequently to the profits of the farmer; and where it is to be had in large quantities and is not needed for fodder, it should be used plentifully as litter for them. It will thus act as a sponge, and retain the richest and most easily dissipated portions of the manure, which generally run off in a liquid state in a black rivulet from the foot of the mass, and are either wholly evaporated or lost in the ground. The manure would in turn assist in the decomposition of the straw, breaking up its dry and hardened fiber and reducing it to a state fit to be applied to the soil.

On light and porous soils, unfermented straw should never be ploughed under, the benefit in such cases being very trifling, if any at all; but in hard and clayey grounds, considerable advantage is sometimes derived from the practice, by its rendering the soil less compact and more permeable by air and water.

The above remarks are intended to apply to straw and all stalks of plants which have become fully *ripe*. If they are used while in a green state, and slightly fermented in a heap, they will furnish twenty times the amount of nutriment

to growing plants, that dry straw does. Succulent plants may be even turned under fresh, and they will be readily decomposed in the soil. Hence green crops of clover are ploughed in to great advantage.

Lime as a Manure.

To distinguish soils on which lime would be more useful than on all others, M. Puvis says that "chemical analysis is the *surest* means." This would doubtless be a *good* method, if the analysis of soils, as recommended by by chemists, was perfect: that is, if it could detect lime when it exists in the soil under *every* form; but the chemistry of Nature is somewhat in advance of his, who goes to work with tests and retorts. From soils which have been pronounced destitute of lime, living animals can procure a sufficient supply for their bones and shells; and trees can obtain tons of potash where our best operators would despair of success.

M. Puvis proposes however, another method of determining whether soils require liming; and this is to judge from the vegetables which grow on them spontaneously. Some vegetables undoubtedly, may be taken as an infallible index. Of this class, is the Red Sorrel (*Rumex acetosella*); but several other plants of his list, are at best, equivocal; and though we have no doubt that in his own particular neighborhood he may have found them useful, yet in other countries they are quite as likely to mislead as to guide. We will give some examples: The "Cow Wheat" (*Melampyrum*) which he considers as indicating a calcareous soil, includes no less than seven or eight species, and some of these decidedly prefer soils in which lime can only occur in very small quantities. Such is the case with our own American species, (*M. americanum,*) and such is the case with another in England (*M. arvense*) which grows in *sandy* fields. Again, some species of the "Rest Harrow" (*Ononis,*) also grow indigenously in *sandy* soils, the very kind of land which M. Puvis very properly directs us to lime. In England, one sort grows in "barren fields," but no field is barren which contains lime in a just proportion. We could object to several other plants which he has named, but we prefer adopting his advice in another part of the "Essay":—first to try experiments with lime on a small scale. This plan we consider more judicious than any other.

We have not been able to resist the impression that several of the opinions of M. Puvis, have been too hastily formed. In referring to certain soils, he says, "All these are almost certainly calcareous, *have no need of lime, nor its compounds*, and *would feel from their use rather* ILL *than* GOOD *effects*." This exclusion of *gypsum* as a manure, from calcareous soils, has been justly objected to by the translator; but we have seen no limestone land which would be injured by the addition of very liberal quantities of *lime*, provided it could speedily become carbonated. We cultivate fields so highly charged with it, that throughout a large portion of them, the *subsoil* will effervesce with acids; and which have yielded forty bushels of wheat to the acre; yet last spring, we limed a part of our kitchen garden which is surrounded by those fields, at the rate of nearly three hundred bushels to the acre. Are we asked if the land has become sterile or impoverished? Do vegetables dwindle and appear as if their due nourishment was withheld? No—just the reverse. We have never had any that grew more luxuriantly; and we are so well satisfied with the result that we intend to subject the remainder to the same treatment.

It may be proper however, to make some explanation. The lime probably contained no magnesia, and had been slacked almost two years. Of course it was not *caustic* when applied. Yet the facility with which *pure* lime becomes saturated with carbonic acid, is so great when the ground receives as ours did, a heavy dressing of stable manure, that we shall not hesitate to apply lime newly slacked.

Another opinion of M. Puvis, has shaken our confidence in his correctness: He says, "In limed earth, weeds and insects disappear." We have not found it so with weeds generally; neither have we perceived any diminution of insects. The common weeds which infest gardens, have grown finely wherever they have had an opportunity, and with the exception of Red Sorrel, or such as have juices decidedly acid, we know of no right that we have to expect them to disappear. Neither the common earthworm, nor the grub worm, have been restrained in the least by the lime, as far as we could observe; and the turnep-fly and the striped bug, entirely disregard it, except when it is thrown on them in a half caustic state.

He also says that "The grain from *limed* land is rounder, firmer, gives less bran and more flour than that from *marled* land." We suppose that this remark was founded on observation; but we suspect that some other agent, independent of the lime and marl, produced that result. Marl correctly defined, is carbonate of lime *mixed* with a variable proportion of clay; and what does burnt lime become when spread and exposed on the soil to the season, but carbonate of lime? If 100 bushels of marl, containing 50 per cent. of carbonate of lime, be applied to one parcel of ground; and 50 bushels of lime fully carbonated be applied to another equal parcel in the same field, have we any reason to expect a difference in the crops?

Our author recommends the application of lime in small quantities; and rather condemns the prodigality of the English liming. It may be well to consider this subject. If the soil to which putrescent manures are applied, has no chemical affinity for the fertilizing gases which rise during the fermentation, such manures must cease to operate in a very brief period; and all must be wasted except such part as the growing crops can seize on, at the time. It is far otherwise however, where the soil contains lime in proper quantity. The part which is not *immediately* wanted to supply the demands of vegetation, is safely stored up, by combining with the lime for future use; and an exemplification of one case may be observed on poor sands, and of the other case on our rich loams. It must therefore be important to use lime enough to prevent the volatile parts of the manure from being wasted. It is true that ten bushels to the acre may be a profitable application; but if forty more be necessary to save the whole of the fertilizing gases, the farmer would sustain a serious loss without such addition of lime.

M. Puvis speaks of the exhausting nature of lime on poor soils; and an explanation in this place may be proper. Fresh lime when applied to a soil destitute of vegetable matter, and more especially if it contains much magnesia, would operate unfavorably for a time on account of its causticity; but the true state of the case is, the soil was exhausted before; and such lime, like an empty purse, can add little to the wealth of the owner, though it lies ready to receive and retain the treasure he may provide. We should therefore advise in regard to soils of this description, that the lime be either made into compost, or else applied to the *surface* of the field, after a good dressing of stable manure has been evenly and thoroughly ploughed in. In the latter case the lime would not fail to detain the fertilizing gases that would rise through the soil.

To conclude: Experiments to test the value of ten or twelve bushels of lime to the acre can best be made on soils already fertile with its compounds, so that putrescent manures may not be wasted on them; and for the same reason, we would recommend liberal dressings of lime on all soils which contain it in very small proportions.

To Prevent Smut in Wheat.

The celebrated Jethro Tull relates that a ship load of wheat was sunk near Bristol in England, in the autumn, and afterwards, at ebbs, all taken up; but being unfit for flour, it was used for seed. At the following harvest, all the wheat in England was smutty, except the product of this brined seed.

An excellent way of preventing smut in wheat, is to steep the seed before sowing in strong brine, and while it is yet moist, to sift quick lime over it.

A writer in the Farmer's Magazine (Edinburgh) offered, for a trifling premium per acre, to insure the whole crop of England from injury by smut, provided the following recipe be judiciously applied: Steep the wheat five or six hours in water brought from the sea, or in common water salted till it is strong enough to float an egg, stirring it frequently. Then procure fresh unslacked lime, slack it with water the same hour it is wanted,* sprinkle a peck of this over every bushel of wheat, stirring the whole with a shovel until they are completely intermixed, so that every grain may receive a share. When dry, it is ready for sowing. Should the lime prove troublesome to the seedsman's eyes, some water may be thrown upon it; for when the lime has once become dry, the cure is effected. The chief care needed is to mix the wheat completely with the lime, so that every seed may receive its due proportion, else the mischief will not be prevented. The lime should be completely slacked, or the wheat may be injured by the heat afterwards. Old or air slacked lime will not do; fresh should always be used. An extensive farmer in England sustained a loss of three hundred pounds

* Care should be taken to apply just enough, and no more water than is needed, to slack it, so that it may be left in a dry powder, and not contain any sensible moisture. The proportions for this purpose are, about one part by weight of water, to three parts by weight of lime.

sterling by using air slacked lime, which otherwise might have been prevented. The writer above mentioned, stated, that by using the above remedy, he had not once suffered injury from smut in more than twenty years.

Selecting Seed Corn.

Now that the season is approaching for making a selection and reserving seed corn for planting next spring, we wish to direct again the farmer's attention to the importance of the practice. Perhaps there is nothing in the whole business of farming, where a little care is productive of so much benefit. Where the practice of careful selection has been regularly pursued for a few years, it has both improved the quality and increased the quantity of the crop beyond the expectation of any who have not before witnessed the experiment.

It is a common way to select the seed corn after it is husked, from the crib; but this is a very imperfect method, for as the ears selected have ripened at different times, the succeeding crop will also do the same. It is also essential that those ears be selected which have grown in the greatest number on a single stalk, but they cannot be distinguished in the crib. In fact, the largest ears, which are commonly chosen, are not the best, as they have generally grown alone upon a stalk, consequently the best are not to be distingushed from those which are third rate, if they are selected after husking.

The following is the method adopted by Joseph Cooper of New Jersey, who, by a continued practice of it, improved his variety of corn to a remarkable degree. "When the first ears are ripe enough for seed, gather a sufficient quantity for *early* corn, or for *replanting*; and at the time you wish your corn to ripen *generally*, gather a sufficient quantity for planting the next year, having particular care to take it from stalks that are large at bottom, of regular taper, not over tall, the ears set low, and containing the greatest number of good sizeable ears, of the best quality; let it dry speedily, and from this corn plant your main crop, and if any hills should miss, replant from that first gathered, which will cause the crop to ripen more regularly than is common; this is a great benefit."

Pie Plant.

The seed of the pie rhubarb having now become ripe, they may be sown immediately, or at any time in the early part of autumn. As they do not vegetate very freely, some care is necessary in sowing them. They should be put in a rich soil, in drills, and covered about half an inch deep with finely pulverized earth, which should be pressed closely upon them. If the weather be dry, they should be watered frequently until they vegetate, and while the plants are young. Next spring they will be fit to transplant, and they will be sooner in perfection than they would were the sowing deferred till spring.

The ground into which they are transplanted, should be dug wide and deep, and made very rich with manure. As the desired product is the growth of stalk and leaves, the ground can scarcely be made too rich. In transplanting, place the roots on a quantity of old stable manure, so that the crown, or top of the plant before the leaves have started, may be four or five inches below the surface. Over the crown spread a little more manure, and cover it finally with earth. If the ground is as rich as it should be, the plants, to have sufficient room, should not be nearer to each other than three or four feet. One plant, well cultivated, will, on arriving at maturity, (at three or four years old,) produce thirty or forty pounds fit for use in a single season.

This vegetable answers most of the purposes of apples to cook or preserve, and gives a very palatable flavor to dumplings, tarts, and pies. Dried or fresh apples, which are kept through the winter, generally lose a part of their flavor, and become flat and insipid; the addition of one third their quantity of the fresh pie plant, greatly improves them. It is an important recommendation of the pie plant, that it is fit for use at a season when scarcely any thing can be had to supply its place.

The mode of preparing it is as follows:—"When the leaf is fully expanded, cut it close to the main stem, remove the green top, then deprive the stalk of its outer skin by stripping it down, and not by cutting with a knife; then cut it into small lumps, not too thin; and either boil it in dumplings made of short paste, or bake it in tarts, using sugar, lemon, &c. to the taste."

ERRATA.—Page 258, col. 1, line 4 from the bottom, for "*New*" read *Now*—page 258, col. 3, line 6, after the word "charge" add *it*—page 266, col. 3, line 24 from bottom, for "discover" read *discovered*—page 267, col. 1, line 1, after the word "and" add *their*—page 267, col. 3, line 12 from bottom, for "latterally" read *laterally*.

Split Hoof in Horses.—A correspondent of the Dolyestown Intellingencer remarking on the great number of horses that get split hoofs in consequence of having been corked during the bad going last season, says, "a number of expedients were resorted to to cure the *split*. Some had bands drawn round the hoof, but these were rather a clumsy affair, and in case the split commenced on the top of the hoof the remedy was completely ineffectual." After alluding to the inconvenience of keeping the horse idle for four or five months,—the plan adopted by some, the writer adds, "But I have within a few days seen an expedient which is very simple and promises complete success. I saw two horses which had their hoofs split, from *corkings* received last winter. They were kept steadily in a team, and showed no signs of lameness. Some time after the split in their feet, various expedients having been tried, without success, a blacksmith suggested *boring the hoof in two places*, on each side of the opening, and then passing nails through the holes, and clinching them tightly. The owner of the horses had the operation performed immediately; and, although the horses had been used in a heavy team, for many weeks before the time of my seeing them, their feet looked well; and I have no doubt that the horses will not be again afflicted with lameness. If the hoof should again incline to split it will be easy to insert a single nail."

Price of Cocoons.

We notice in most of the prices current of country produce, copied from the New England Farmer, that cocoons are quoted at $3 per bushel. As this quotation is directly, though unintentionally, calculated both to discourage the growth of silk and induce growers to sell at an under price, we feel it our duty to state, that cocoons of the best quality are selling at $5, and those of inferior qualities at proportionable prices. The ordinary price last year was $3, and consequently the editor of the Farmer so quoted them at that time; but they have since advanced, and he has, for some time, omitted to quote them at all. Editors who continue the Farmer's price current, would do well to revise it by a late number, and either strike out cocoons entirely, or quote them from $2,50 to $5, which will be according to actual sales.

Since writing the foregoing we have received a letter from our correspondent at Mansfield; by which it appears that they have already engaged the attention of speculators. He says—"Cocoons are selling readily at $5 per bushel, and some have sold for $5,50 to speculators since I wrote you. There are but few now for sale, the crop being short in consequence of the severity of last winter. I have raised from 15 to 20 bushels."—*Silk Culturist.*

To Thaw out a Pump.

Take a piece of lead pipe, long enough to extend from the top of the pump to the bottom of the ice. Run it down the pump so as to let one end rest upon the ice, and pour boiling water into the other. The pipe keeps the water from spreading, and applies it to one exact spot, and as fast as it melts the pipe sinks upon the bottom of the hole through the ice faster than a man can bore with an auger. After one hole is made in this way fairly through, raise the pipe and rest it on the ice in another spot and pour in water as before. After repeating this process two or three times the ice will be found all melted, and the piston rod will be free.—*Maine Far.*

Pickle for Bed Bugs.

A house keeper wishes us to say to our readers that a strong solution of common salt and water will kill bed bugs immediately, if applied to them. Those who are so unfortunate as to be troubled with such visitors can thus get rid of them in a cheap manner by applying a little pickle to their carcasses.—*Ib.*

PASTURE.—An English writer recommends to mix a few sheep and one or two colts in each pasture for horned cattle. Another says, "The following economical experiment is well known to the Dutch, that when eight cows have been in pasture, and can no longer obtain nourishment, two horses will do very well for some days, and when nothing is left for the horses four sheep will live on it; this not only proceeds from their differing in the choice of plants, but from the formation of their mouths, which are not equally adapted to lay hold of the grass."—*N. E. Farmer.*

Seaweed for Manure.—Seaweed consisting of different species of Fucus and other marine plants, is greatly used upon the sea coasts of Great Britain and Ireland as a manure. It is very transient in its effects; but is nevertheless of much value in situations where it can be obtained. The most common method of using it, is to convey it directly to the land, and apply it fresh as a top dressing to the growing crops. If left in a heap by itself its more soluble parts are exhaled, and a dry fibrous matter alone remains. If it is not applied, therefore, in its recent state, it should be formed into a compost with dung, or with a mixture of dung and earth.

Seaweed is chiefly valuable for light and dry soils. It is of less comparative value for the stiffer clays; and hence when a farm has access to it, it is better to apply the seaweed to the lighter, and the dung to the stiffer soils on the farm.—*Low's Elements of Agr.*

COMMUNICATIONS.

Crops in East-Bloomfield in 1836.

BY O. P. Q.

Mr. Tucker—Having given you a statement of the crops raised in this town for the two last years, I am induced to continue the practice, both because it conduces to something like accuracy in our estimate of the crops of the country, by having particular sections of it given, and tends to repress the too prevalent practice of underrating our blessings.

Wheat.—Our staple wheat has alternately raised and depressed our hopes from the time of sowing. Last fall many pieces looked very fine, and gave promise of an abundant harvest. The remarkable winter had an unfavorable effect upon it, and in the spring the prospect was indeed gloomy. The rains of June, and the subsequent season, has been favorable for the growth of wheat. I believe those who viewed their fields but seldom, found it much better at harvest than they expected. On the whole, from the best information I can obtain, I am inclined to think the crops equal to last year's. But be it remembered that that was a short crop, and that we have not had a full crop since 1833. Wheat was singularly affected by the winter and spring. Places the least exposed to injury in ordinary seasons suffered the most. I believe that wheat sowed early, on summer fallows, did much the best, as has been the case for the three last seasons, but was singularly reversed in the crop of 1833.

Wheat sowed after barley and corn did not do as well as usual, owing perhaps to its not being sowed as early as usual, and did not get much growth before the snows fell. After oats it was, in very many cases, an entire failure.

Of the varieties, I think red chaff has done the best. There is more complaint of smut and rust than usual, and many pieces of late sowed is shrunk. I have heard of no complaint of insects, but the bane *stein-craut* continues to make fearful inroads upon us, so much so, that many farmers are sowing less wheat and more spring grains. It is very evident that some remedy must be devised, or we can soon raise no wheat at all.

Barley.—It was said of barley last year, that it was an uncommonly good crop, and yet I think it still better this season. It has long heads, is well filled, and many fields will average forty bushels to the acre. Probably we have raised more this year than ever before, and yet I think there will be much less exported, as we are beginning to appreciate its worth for feeding farm stock.

Oats are very fine. I think I never saw them look better.

Corn looks very miserable. The long rains in June spoiled what escaped the ravages of the cut worm and grub, and the cool nights of July caused it to put forth the ear prematurely. Many fields have the appearance of corn in miniature, going through the whole process of blossoming, tasseling and earing, and yet scarcely two feet high. Even if frosts hold off until October, the crop will be uncommonly light. If Earl Stimpson can reach one hundred bushels to the acre such seasons as this, he must have some method of warming his land which we western farmers know little about.

Grass.—This has been a season favorable for grass, and the amount of hay cut is much more than usual. Pastures are beginning to be affected by the dry cold weather, and fall feed will probably be scanty.

Potatoes.—I should think the crop would be much lesss than usual. There were, however, a more than usual quantity planted, many farmers using them in fattening their pork.

Buckwheat looks very well; the crop will be a heavy one, unless injured by the frosts.

Peas.—I have noticed but few fields of peas, and those not very thrifty.

Rye and whiskey have both pretty much disappeared from our fields.

Flax.—I have seen none.

Mangel Wurtzel.—There was considerable inquiry for seed along in the spring, many of us having a mind to try it on a small scale. The season for sowing was very unfavorable, and many lost their labor entirely. The plants that succeeded in growing look very well. They will endure almost any weather, let them but get under way.

Wool.—We are getting to be considerable wool growers. A few years since speculators bought up almost all our sheep and slaughtered them for their hides. Since then much pains have been taken in improving our sheep, many having been imported from the eastern counties, and now but few of the common coarse wooled can be found. Some farmers among us keep from three to ten hundred sheep, and they hold them at too high a price for speculators to make money in skinning them.

Fruit.—This is not a bearing year with our orchards, and the supply will be scanty. Pears and plums, cherries, &c. are in their usual abundance.

On the whole, we are greatly blessed in the produce of our fields—in the health and general prosperity which attend us; and although the very great scarcity of laborers made many of us dread the approach of harvest, yet I believe we have all got through much better than we had reason to expect. The weather has been remarkably favorable, and so cool that a man could exert his utmost strength, and not be overcome with heat. Our summer fallows are in rapid progress, and much in advance of what they were last year at this time. The oat harvest is mostly completed. In the harvesting of corn and potatoes we do not anticipate much labor, and it is presumed farmers will be ready for sowing earlier than usual.

Higher prices for the produce of our farms we cannot reasonably wish for, and if we had hearts filled with gratitude to the Author of all our mercies, we should indeed be a happy and prosperous people. O. P. Q.

East-Bloomfield, Aug. 25, 1836.

Wheat—Hessian Fly—Wheat Worm.

BY WILLIS GAYLORD.

Furnishing a greater amount of human subsistence than any other article on the globe, rice alone excepted—adapted to a great variety of climate, and its culture most widely extended—constituting as it does the staple commodity of the northern states, and answering in that respect to the cotton of the south—employing more capital and more men in its production than any other item in agriculture or commerce, it is not strange that every thing relating to wheat; its kind, quality and cultivation; its enemies and its diseases, should be viewed as matters of paramount interest by all.

Among the enemies of wheat, two have made themselves conspicuous by the extent and the permanence of their ravages, while a multitude of others have shown themselves perhaps for a single season, and then disappeared. The first of these is the Hessian Fly, *Tipula vaginalis tritici* of Mitchell, and has been so ably decribed both by Akerly and Havens, as well as more succinctly in most of the agricultural journals of the day, that further allusion to it might be deemed unnecessary, had not a new theory, founded in error as we imagine, lately been promulgated respecting it.

The manner in which the Hessian fly performs its operations is well understood, at least it has been so supposed, having since its first appearance on Long Island in 1786, been subjected to the closest examinations, and its habits thoroughly investigated. According to Dr. Akerly, who has given engravings of the insect in its several stages of existence, "it is a small black fly, not so large as the moscheto of this place, (New York,) with two transparent wings, from the roots of which three ribs diverge, as through the leaf of a plant. The body when examined with a microscope is found to be divided into four segments, with a few hairs observable on each. The legs are of a yellowish cast and transparent, the head inflected, with a short proboscis." It passes through the usual insect stages of the *egg*, *larvæ*, *pupa* and *perfect insect*. The egg is deposited in autumn by the perfect or winged insect, in the new sown wheat of autumn, between the leaf and the main stem, as near the root as possible. It soon hatches, and it is in the larvæ or maggot state, that it inflicts such serious injury to the wheat. This is done by pressing the tender stalk with its bulk and numbers, as well as by penetrating and living on its vital juices. It remains in the pupa state through the winter, and when the weather becomes warm is transformed into the perfect insect, which again deposits its eggs in the wheat and dies, long before the ears of wheat present themselves. The insect thus undergoes two complete transformations in the course of the year, and the race is perpetual.

A late writer, however, in the Baltimore Republican, has advanced the idea, that the Hessian fly propagates its race by fixing its egg to the hard kernel of the wheat, or depositing it within it, as is done by the pea and clover bug, from whence when sown and the egg hatched, the larvæ rises with the stalk, undergoes its transformation, and is again ready to deposit its egg in the ripe ear of wheat, or in its blossom and berry. The same opinion has been advanced by a writer in the Philadelphia Gazette, though no proofs were offered to show its correctness or plausibility.

We think the correspondents of these papers must be mistaken in their theory, or that they refer to another insect, as the Hessian fly has

been so frequently observed in all its changes, that it is scarcely possible such a mistake as to the manner of depositing its egg could have occurred. It has been so often caught in the very act of placing its egg between the leaf and the stalk, and the eggs have so often been submitted to microscopic observation in that situation, that strong proof will be required to overthrow the commonly received opinion. Besides, at the time the wheat is in the blossom or new kernel, (which is the time on the new theory the egg must be placed in or on the kernel of wheat,) the fly is rarely or never seen, and by examining the stalk at this time the insect is invariably found in the larvæ state. Passing through the larvæ and pupa stages, the perfect insect appears in the month of September, ready to deposit its egg in the new sown wheat, but clearly too late for the ear. The eggs thus deposited in the fall, undergo their changes, and the perfect insect appears with the first considerable warmth of spring, long before the wheat ears have shown themselves, thus rendering a deposit of eggs in them impossible. That, as these writers assert, much benefit was derived from brining and liming the seed, we readily believe, as such treatment would give the plant more vigor, a firmer growth, and consequently more ability to resist the fly. If the fly had never been heard of, farmers would find their account in using lime as a preparation for their seed wheat.

The other insect to which allusion has been made, and which threatens to become a more formidable pest to the wheat grower than even the Hessian fly, is the *Tritici vibrio*, or wheat worm as it is generally called, since it is in this stage of its existence it more frequently falls under the notice of the farmer than in any other. Almost every person who raises wheat has noticed when threshing his wheat in autumn, that at cleaning up there would be more or less small worms from 1-8 to 1-4 of an inch in length, yellowish brown in color, hard, quite lively, and in their general appearance, size excepted, much resembling the common flour worm. Where the threshing is omitted until winter, the worm will not often be noticed, as it is either safe in the berry of the wheat, or having undergone transformation, the perfect insect has perished. This worm is the wheat worm, which for several years past, in some parts of our country, has been so numerous and destructive as almost to compel the farmer to suspend the culture of wheat.

As in the case of the Hessian fly, public opinion seems to point to Europe as the country from which the wheat worm has been imported, and the facts, that it made its first appearance this side the Atlantic in the valley of the Hudson, and from thence as a center has been rapidly spreading over the country, and that foreign wheat is frequently brought to the city of New York, and in many cases is purchased and sown by the river farmers, would seem in some measure to countenance this supposition. In our opinion, however, a stronger argument is found in the fact, that an insect very similar, if not perfectly identical with our wheat worm, has long been known and described in Germany and Great Britain.

Although the existence of such an insect has been known among the farmers of this country some ten or fifteen years, it does not appear to have produced any considerable injury, or attracted the notice of men of science, until within three or four years, and hence its habits, transformations, modes of action and propagation, are as yet but imperfectly understood. That it is caused by a fly which deposits its egg in or on the kernel is certain, and that while the wheat is in the milk, or soon after the ear leaves the sheath; that the egg produces a worm which devours the flour of the kernel, and leaves it hollow and worthless, thus, when prevailing to a great extent, totally destroying the crop, is also certain; but there would seem to be some little difference among observers as to the appearance of the fly that produces the insect or worm, and the manner in which its egg is deposited.

The Rev. H. Colman (not from personal observation however) describes it as "a small *reddish fly*, which is seen hovering over the wheat fields in immense numbers, while just in flower, and has been observed to alight upon the kernel or bud, to ascend it, and then descending into the inner side, to deposit the egg between the stalk and the kernel of wheat."

D. Hurd, Esq. of Claremont, after an ineffectual attempt to discover the fly by day light, commenced observing by candle light, and was, he thinks, at last successful in determining the insect. He says—"Soon after dark the flies commenced in great numbers crawling slowly up the stalk from the ground, and ascended to the top of the ear, where they commenced laying their eggs, where a single fly in many instances deposited as many as sixty at a time. At the approach of morning the flies were again in motion, and descended slowly to the ground and disappeared. These flies are nearly the bigness of the common house-fly, but somewhat longer, more slender, and of a *green color*. The ears of wheat were at this time only partially out of their sheath."

Mr. Evans, of Canada, has given a description of the insect, and its method of depositing the egg, in the Montreal Courier. According to him, "the fly is about the size of the moscheto, but the body is rather longer, and the legs shorter; the body is of a bright *orange color*, and the wings transparent, changing color according to the light in which they are viewed. I have examined them with a magnifying glass, and the body appears formed of rings, and coming to a sharp point at the extremity, or tail. The body has very much the appearance of a wheat maggot when in a full grown state, the color is exactly the same. The first day I discovered the fly this year was on the 29th day of June, and on the 4th of July, in the evening, I found them depositing their eggs in the ears of barley. * * * * * The fly was last evening as active as ever, stinging the wheat ears and depositing its egg. The fly remains concealed during the whole day about the wheat roots, and does not come upon the ears until it is *near sunset*, unless it is very calm."

According to Messrs. Kirby and Marsham, the British entomologists, the wheat in that island "is attacked as soon as it blossoms, by a small orange colored gnat or midge, (as it has been improperly called,) of a very delicate form, which deposits its eggs among the glumes of the florets of the wheat, by the assistance of its ovipositor, which is long and retractile. The wings are broad and covered with very fine hairs, but they are almost entirely destitute of nerves. The legs are long and slender. This fly is the *Cecidomyia triticea*, and it is towards the end of June and in July that the eggs are deposited. The larvæ are hatched in eight or ten days, when they commence feeding on the pollen, which is however only sufficient for their supply in the first instance, after which they crowd around the lower part of the germen, where they probably feed upon the matter which had been destined to form the grain. The flies are said to repose during the day on the lower part of the stems, becoming active only about sunset."

It will be seen that the British insect very much resembles ours, except that there is no proof that, like ours, it enters and hollows out the kernel; and also in the difference of the damage it occasions, extreme cases there being put at twenty per cent., while here in many instances it has destroyed nineteen twentieths of the whole.

Fortunately, thus far, the wheat worm has been a comparatively rare insect in western New York, and though in threshing wheat the worm has occasionally fallen under our notice, its numbers, except in a few instances, have not been such as to attract much attention, or alarm the farmer. The first infected wheat we ever saw was some ten or twelve years since, soon after harvest, and as that was perforated in the same manner as what is called buggy peas are, and contained the worm within, as breaking the kernel proved, the impression at the time was, that the egg was deposited by a fly or bug, (which was then unknown,) precisely in the same manner as in the pea, or the clover seed. Frequent opportunities for examination of the infected kernels since, has rendered it probable that the eggs are deposited by the fly at different times in both these ways—when the kernel is in the milk and easily penetrated, by piercing the berry and leaving the egg within—and when the berry is more advanced, depositing it on the outside between the chaff and the kernel.

Every student of natural history recollects the experiments of Reaumur to hasten the hatching of the insect larvæ by heat, and thus forcing them through all the stages of insect existence in a much shorter time than would in the usual course of things have been required, and the complete success which attended his efforts. Three or four years since we witnessed a curious instance of this forcing process, conducted on an extensive scale. The season for securing wheat had been unfavorable, and about ten days after harvest was completed, it was found that a large mow containing nearly two hunded shocks in one of the barns was quite warm. Apprehensive of injury, and it being impracticable to remove it, it was concluded to run it through the machine at once. It was done, and the wheat spread on the floor to air and cool. In the course of a day or two, the sides of the floor, machine, fanning mill, in short, every thing around the wheat, was literally covered with a small black or dark red fly, which had evidently crept out of

the wheat. On examination, it was plain that the heating of the mow had anticipated the usual period of transformation, and that the perfect or winged insect, which under ordinary circumstances would not have appeared until the next summer, was thus forced into existence in a few days. We have since heard of similar facts alluded to by others, with the addition, that in those districts where the fly has prevailed in such immense numbers, the partial heating of the wheat would be attended with the death of the whole from their inability to escape from confinement, and that in such cases a most disagreeable smell, decidedly resembling those of animal and putrefactive origin, would for a considerable time exist.

It will be seen Mr. Colman, or his informants, pronounce the insect a reddish fly—Mr. Hurd as of a green color—Mr. Evans as of a bright orange color—and Messrs. Kirby and Marsham, as orange colored: the fact is, this fly is changeable in color, and appears red or green, according to the light in which it is viewed. This green colored fly we have never seen depositing its eggs on wheat, probably from not observing it at the proper time of day, but we have seen it deposit eggs in great numbers on the ripe blackberry, where the worm was not very dissimilar to the wheat worm. Some of these flies are provided with an ovipositor, which folds under the belly much like that of the *Œstrus equi*, or common bot fly of the horse. Other observers have attributed the damage to a dark colored fly, and if we were not mistaken as to the origin of those mentioned as proceeding from the heated wheat mow—which under the circumstances was hardly possible we could be—our observation would tend to the same result. May there not be more than one kind or species of the fly that perpetuate their race in the same way?

Producing such disastrous results to the wheat grower, it is not to be wondered at that experienced farmers, in those sections of the country where the worm prevails, should have exerted themselves to discover some remedy either to prevent or destroy them. It having been fully ascertained that soaking wheat in brine, and rolling it in quicklime, before sowing, would effectually destroy smut and all insects, the eggs of which are deposited on the outside of the kernel of wheat, it was hoped it would prove equally effectual in the case of the wheat worm. Indeed, it was announced by Mr. Colman, that lime sprinkled over the fields of wheat, when the ear was appearing, would prove a specific, but experience has shown, by a multitude of experiments in the infected districts, that such a hope is fallacious. Mr. Evans says, and the testimony of other farmers is in perfect accordance with his,—"I have used lime, which I scattered over the wheat while the dew was upon it, to such an extent, that in the evening it appeared as if whitewash had been scattered over the field, but the fly was still as active after the lime was applied as previously." Mr. Evans also scattered fifteen pounds of snuff, mixed with wood ashes, over about an acre, and it was equally unavailing in checking the fly. In short, nothing that will not destroy the wheat in its application, has hitherto proved effectual in the least degree. It is to be hoped, however, that as the history and habits of the worm becomes better understood, that some remedy will be found to its ravages. The attention of naturalists should be particularly directed to objects of such interest, as the man who is successful in developing the habits and devising a remedy to the wheat worm, will confer a great benefit on the community, and entitle his name to lasting gratitude. It is to be regretted that the votaries of science too frequently neglect objects of paramount utility, in pursuit of those which are more showy perhaps, but of comparatively little value. In concluding this paper we would ask,—since it appears that in may instances the fly is perpetuated by worms enclosed in the wheat sown, *would it not be good policy to use wheat two years or more old for seed, as such wheat, if it originally was infected with the worm, must have lost them by their previous transformation?* It is well known that old peas do not produce the pea bug when sown, however much they may have been infected when growing; and the reason is plain—the transformation of the insect is undergone, and the bug has left them, hence they succeed; may not old wheat do the same?

WILLIS GAYLORD.

Otisco, August 18, 1836.

Postscript.—Since writing the above we have, by closely examining a piece of spring wheat, discovered the fly depositing the egg, and have also seen the young worm immediately after it was hatched, on the outside of the kernel, and within the inner chaff. I have enclosed you a specimen of the fly, both male and female. The ovipositor folded under the belly of the latter is plainly to be seen with the naked eye; with a glass of moderate power, the apparatus for deposition is distinctly visible. Their bodies are of course much shrunk, but their general appearance and green color will be seen. When living and crawling on the wheat, their wings are folded down much in the manner of the common house fly. I have observed that the winter wheat appears to be infested in a greater degree than usual, but not to such a degree as to be in any considerable manner injurious.

W. G.

Productive Power of Land.

Few farmers, in this country, are aware of the immense productive power of land perfectly cultivated. The notion that large farms are indispensable to large agricultural operations always prevails in new countries where lands are cheap and cultivation imperfect; but as a country progresses in age, and lands advance in price, it is discovered that the product and profit of a farm depends more upon its cultivation, than the number of acres it contains. At the first settlement of this country, by civilized man, it was a wilderness, and lands were purchased of the natives for articles of clothing and ornaments of trifling value. This induced our ancestors to make themselves proprietors of large tracts of wild land, without reference to their ability to cultivate them. The consequence was, a low standard of husbandry. But as these extensive tracts were afterwards divided and sub-divided, as the increase of population and the exigences of families required, it began to rise and has been slowly progressing until it has arrived to its present state, but which is very far below what it was in the old world long before the Christian era.

It is supposed that agriculture has never been in a more flourishing condition and cultivation carried nearer perfection, than it was in ancient Rome five hundred years before Christ. The principal assignable reason for the agricultural prosperity of Rome, was the size of farms which were circumscribed within very narrow limits. The farm of Manlius Curius Contalus, one of greatest Roman farmers, consisted of but four and a half English acres. He was three times chosen consul, the highest ordinary office in the State, and for a time commander in chief of the Roman army, and yet he derived all his subsistence from his farm. For his splendid victory over Pyrrhus he was offered more land by the government; but he declined it, assigning as a reason, that should he even aspire to more wealth and possessions than he already had, he should become an ambitious, and consequently a dangerous man to the liberties of his countrymen. That famous Roman farmer Cincinnatus, about whom so much is said of his being called from the plough to the command of the Roman army, had only two and a quarter acres of land. His original farm contained seven jugera, about four and a half acres, one half of which he had been compelled to dispose of to raise money to pay the debts of an improvident son.

But nothing will better illustrate the importance of good cultivation, and the astonishing productive power of land under it, than the story of Paridius, the Roman vine-dresser. He had a vineyard and two daughters. At the marriage of the eldest, he allotted her one-third of the vineyard as her portion, and, astonishing as it may seem, succeeded in making the same crop from two-thirds, which he had formerly made from the whole. At the marriage of the other daughter, he apportioned to her one-half of the remainder, and yet his crop was undiminished.

We are not among the number who believe it necessary for our young agriculturists to penetrate the western wilderness for the purpose of obtaining a subsistence or accumulating wealth—we are not of the opinion of the farmer who removed one hundred miles from his neighbors to avoid being annoyed by them, and when one of them located himself within fifty miles of him, considered it an insult, and said he did not thank him for sticking down right under his nose. Neither do we believe that war, pestilence, famine, intemperance and crime are necessary, as checks upon the increase of population and preventives of a redundancy which the products of the earth could not sustain. But we do believe, that in the present state of the arts, rural economy may be carried to such an extent, that even New England might sustain, in comparative comfort and affluence, more than fifty times its present population.

That we have not overrated the productive power of land, perfectly cultivated, is evident from the fact, that there are large provinces in India, where a population of from four to six hundred inhabitants to the square mile, are supported by agriculture.

There is also an island on the eastern coast of China, containing one thousand square miles, and a population of 400,000. Agriculture and horticulture are the exclusive pursuits of the inhabitants, and their crops are limited to rice, cotton, millet, and culinary vegetables.—*Silk Culturist.*

Gleanings in Husbandry.

Agricultural knowledge may be adapted to different climates and circumstances. "However different be the natural production of countries, and however necessary it be that the farmer adapt his operations to these differences, yet there are rules and maxims in the art common to the husbandry of all countries; and he who is thoroughly acquainted with one good system of practice applicable to any one situation of the farmer, has the means by an easy analogy, of applying his knowledge to other and similar cases. A person thoroughly trained to practice on the banks of the Tweed would make a good farmer on the banks of the Po or the Ohio. He has received the kind of instruction which is useful under all circumstances, under which they can be applied."—*Professor Low.*

Potatoes for Sheep.—"Gen. Murray uses pota-

toes for fattening sheep as well as for lean stock. He has now 196 fat wethers, that eat very near 14 bushels of potatoes and 100 weight of hay *per diem*; it may be reckoned 14 bushels for 100 Sheep. If they have as many potatoes as they will eat, they do not require more than half a pound of hay each per diem.—*Young's Annals, Vol. II. p.* 285

It will be proper in feeding cattle with potatoes, or other roots to give them but a small quantity at first, increasing it by degrees as they become accustomed to that sort of food. It will be better to give a little every day than large messes, once in three or four days or a week.—*Vol. II. p.* 57.

Fattening Hogs.—If your object is merely fattening swine it will be advisable to take time for the process. A farmer, stating the result of some experiments in the Bath Society papers, Vol. VI. p. 382, says: "I invariably found that the quantity of food consumed (by fattening hogs,) increased every week, till the animals became three parts fat; after this period they ate but little, and almost all they eat turned to fat. It is, therefore, good policy to make them completely fat, and that can only be done, by giving time."

Lynch law among Swine.—It is said that hogs thrive best when there are but three or four in the same apartment or pen. They are fond of society, but exhibit the vilest propensities of a "swinish multitude" and become very riotous if congregated in a large assembly. As they know no law but Lynch law, and acknowledge no right but that of the strongest, they sometimes condemn a weaker brother in a popular assembly, and proceed to execute him without Judge or Jury. The stye, therefore, should have a number of apartments separated by close partitions, and they may be a general feeding trough to which each division of animals may have separate access.

Salt hay has usually been hurt by lying too long in the swaths. Dr. Dean directs to cock it the next day after it is cut, and carry it in, without delaying more than one day, and put a layer of some kind of dry straw between load and load of it in the mow, to prevent its taking damage by over heating. The straw contracts so much of its moisture and saltness, that the cattle eat it very freely, and the hay is far better than that made in the common way.

Water Plants.—Water is apparently the medium of which all the matter of nutrition, in whatever form is conveyed into the roots of plants, and without which, accordingly, vegetation is never known to take place.—*Low's Elements of Agriculture.*

Peat.—Peat is a substance which may be used as a manure, but unless freed of its acid principle it may remain for years exposed to water and air without undergoing decomposition, in which state it can afford no nourishment to plants. Pure peat, should, therefore, be made to undergo decomposition before it is applied to the soil. This may be done by long exposure to the air, or by mixing it with quick lime, which decomposes its woody fibre, and forms a kind of compost which, however, is not greatly valued.

NEW YORK MARKET.

Week ending Saturday, August 20.

The N. Y. Daily Advertiser of Saturday remarks: We have advices from Europe down to the 26th July. The Cotton market had declined in Havre and improvsd at Liverpool, Ashes also lower at the former places. No change in other articles and no political news of consequence. The business of our city has become very active; the jobbers are busily engaged, the importations are large and every thing appears flourishing. The city is now full of strangers; hotels and boarding houses full; the immense number of stores in the burnt district mostly completed, the money market relieved, confidence restored, and things appear brighter than they have for a long time. We have had a considerable stir in the flour market this week; an impression has become prevalent that the grain crop will be severely injured this season, the consequence is, that a speculation has followed and all descriptions of Western Flour have gone up nearly a dollar a barrel.

FALL TRADE—Our city presents a scene of unusual activity; the prevailing cool weather has brought a large number travelers to the city, and already the fall trade has commenced. The supply of goods probably was never greater, and as the country has increased in population and means, the demand and quantity of goods required has a corresponding increase. It is believed the sales this year will be greater than ever has been known.

ASHES—Notwithstanding the decline in Havre and the continental market, prices keep up here and the demand continues. Pots stand firm at $6 and a large business doing. Pearls not quite as brisk at 8 25. The supply has been greater than usual this year, but sellers have been readily met and generally at improving prices. Pots have been taken for export. But the bulk of the Pearls for home consumption.

FLOUR—The speculation commenced this day week by buying up Western, which then stood at $7 18 a 7 50. It is understood that persons engaged in Southern trade were most interested in the purchases. The result of the wheat crop at the South, and the prospect in our own state, together with the unfavorable prospect of the Corn crop has created the belief that there would be a short crop of grain generally. This with the fact that but little is arriving has induced purchases at this time. Prices have gradually gone up, day by day, until they are risen about a dollar higher than they were a week ago: the advance has been almost wholly on western and Ohio. Southern Flour stood about a dollar above Western when the excitement commenced. This description has risen only about twenty-five cents.

GRAIN—Two small parcels of new wheat from North Carolina, about 1600 bushels arrived in the early part of the week, and sold at 1,62, quality inferior; about 2000 bushels middle county old, sold at 1,75 to go south, none now remaining in market. Rye, very little here, a parcel of 5000 bushels Dutch was sold in the early part of the week, at 1,12½, since then, a little Northern has reached the market, and sold at 1,12, this is an advance of 10 to 15 cents within ten days. Corn has also gone up, Northern is selling at 1,12 cts; Southern and Ohio at 95c. Northern oats at 50 a 52 cts.

PROVISIONS—But little movement in pork, moderate sales of mess at 23½a24, and prime 16½ a 17 dols. Beef very dull at 6a6½ per prime, and 10a10½ for mess. The season is fast drawing to a close. New beef will begin to come in the 1st October. Lard 13½a16.

MONEY—The mercantile classes who confine their business to moderation and who are in good credit, find no difficulty in obtaining liberal discounts at the various banks, and among this class money is not scarce. But it is not to be disguised that there is an immense deal of over trading. A large amount of the importations, in fact all are sold for six and eight months paper—this is too long for the banks and a larger portion of it finds its way into Wall street. There is also a large amount of real estate, notes and stocks without limit uniting the whole; the load is too heavy for Wall street, and an immense amount of business is done in the street at 1 to 1½ per cent a month. On the whole however the money market is decidedly easier than it has been.

SPECIE—For a wonder we are this week without the arrival of any large sum from Europe, and none has reached us from the south. The supplies that have come within the last year are truly astonishing. The export bears no proportion to the import. The withdrawal of small bills however has taken a large sum from our banks, and there is consequently a less amount in their vaults than there otherwise would have been. The war in Texas however has cut off a vast import from Mexico into New Orleans; the trade has consequently suffered much.

25,000 Mulberry Trees.

WE have 25,000 White Italian Mulberry Trees 3 years old, which we will sell at $25 per 1000, or $3 per 100. If 5000 or upwards are taken, a deduction will be made.

REYNOLDS & BATEHAM,
sept 3 Rochester Seed Store.

20,000 GENUINE Morus multicaulis, or Chinese Mulberrry, of one and two years' growth, by the dozen, hundred or thousand.

Also—30,000 White Mulberry, of one and two years' growth—for sale by ASA ROWE.
Greece, August 3, 1836.

2000 Saxony Sheep for Sale.

THE subscriber will offer for sale, on Thursday the 15th September next, the flock of Saxony Sheep belonging to the estate of the late Robert S. Rose, Esq. consisting of 2000, a large proportion of which are ewes, and all of a very superior quality. The flock will be offered in lots of 20 and upwards. The sale to take place at 10 A. M. at the former residence of the late Mr. Rose, 3 miles east of Geneva.

This very valuable flock of sheep is offered for sale in consequence of the recent sale of the farm on which they have for many years been kept.

Also, at the same time and place, 25 head of Cattle, 15 Horses, the utensils of an extensive farming establishment, and four hundred tons of good Hay.

TERMS—All sums above $50, one year's approved credit, with interest. G. L. ROSE.
aug 27-f3t

ELECTION NOTICE.—*Sheriff's Office, Monroe County, Rochester, July* 23, 1836.—A general election is to be held in the county of Monroe, on the 7th, 8th and 9th days of November next, at which will be chosen the officers mentioned in the notice from the Secretary of State, of which a copy is annexed. ELIAS POND, Sheriff.

State of New-York, Secretary's Office, Albany, July 15, 1836.

Sir—I hereby give you notice that at the next general election of this state, to be held on the 7th 8th and 9th days of November next, a Governor and Lieutenant Governor are to be elected.

I also give you notice that a Senator is to be chosen in the Eighth Senate District in the place of John Griffin, whose term of office will expire on the last day of December next.

JOHN A. DIX, Secretary of State.
To the Sheriff of the county of Monroe.

N. B.—The Inspectors of Election in the several towns in your county will give notice of the election of a Representative to Congress from the 28th Congressional District, and that 42 Electors of President and Vice President are also to be chosen at the general election aforesaid. They will also give notice of the election of Members of Assembly, and for filling any vacancies in county offices which may exist. july26

Monroe Horticultural Garden & NURSERY.

THE subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Strawberries, Ornamenta Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots &c. &c.

ALSO—A few hundred of the Morus Multicaulis, or Chinese Mulberry, the White Italian Mulberry by the hunbred or thousand, Grape Vines of both native and foreign varieties, mosty of large size, for sale by the single vine, hundred or thousand, at reduced prices. The subscriber has a large collection of Green-House Plants of choice and select varieties, and in good condition.

☞ Orders for Mr. Rowe's Nursery received by the Publisher of this paper.

Catalogues will be sent to those who wish them, gratis, or may be had by calling at the office of the Genesee Farmer. ASA ROWE.
Greece, Monroe co. N. Y. Sept. 13, 1835.

From the Farmer and Gardener.

Lime and its Uses.

A correspondent, whose letter bears the post mark of Leesburg. Va. and who signs himself "A Subscriber and Reader," asks us the following questions:

1. What quantity of lime should be spread upon an acre of ground now in clover-lay, and intended to be sown in wheat?
2. What are the offices performed by the lime?
3. What number of years will it act advantageously upon ground on which it may be placed?
4. What kind of soils does it suit best, and *when* can it be most serviceably employed?
5. What quantity of *lime* should be put upon an acre?

To these queries we answer:

1. The 1st and 5th questions are so nearly *twins*, if we may so express ourself, that the answer to the one must suffice for both. With regard to the quantity of lime which can be used to advantage on an acre of ground there is great diversity of opinion, and, indeed, it is almost impossible to prescribe any *rule* which would be entitled to be universally observed. Authors differ upon this subject as upon every other, some fixing the *minimum* at 25 bushels per acre, while others carry their *maximum* to 500 bushels. Such wide difference of opinion, among those who should be presumed to understand the force of their recommendations, is at least disheartening to *those* who look at the subject with a superficial eye; but to those who have given themselves the trouble to *examine* and *think* upon the subject, it must but serve to confirm their belief in the justness of the opinion, now mostly entertained among enlightened men, that lime *of itself* is a *stimulant*, and not a manure—that its specific action consists in converting all woody and vegetable matter, with which it comes in contact, into nutriment, by promoting its decomposition. If this be true, and we believe it is, it follows as a natural consequence, that the specific service performed by lime is *limited* by the quantity of matter upon which it may be required to act, and therefore that the *quantity* to be used per acre must be regulated accordingly. If a field with a fine body of clover upon it be ploughed up, a *hundred* bushels of lime could with decided profit be used to the acre. We say so, not under the belief that the entire stimulative properties of the lime would be *requisite* to convert such body of vegetable matter into food for the immediate succeeding plants; for our belief is, that it will continue to exert annually a portion of its meliorating powers; because we are of opinion that after it shall have promoted the decomposition of the clover-lay, that its *superabundant quantity* will serve for many years, both as a decomposer of vegetable substances, and as an attractor of moisture from the atmosphere, and that in this way a most beneficial influence will continue to be exerted on the growing plants for an almost unlimited period of time. It will be thus evident, according to our view of the operation of this mineral, that it acts in a double capacity, viz: *stimulative* and *attractive;* and that for all *present* purposes of promoting vegetation, a greater quantity of the mineral than is necessary to effectuate these purposes is unnecessary for the time being. To ascertain the *precise point* at which the efficacy of the mineral is beneficially exerted, is a matter of great difficulty; but here the *experience* of the farmer comes into his aid, and he is thereby enabled to proceed without danger of applying it in excess of quantity. In England, where its virtues were known, and its advantages experienced long before it was introduced into use in American husbandry, from 50 to 640 bushels have been put upon an acre without injury— on the contrary, indeed, with decided benefit. The latter quantity we suspect to be very far above what is indispensably necessary; and from the circumstance of the former one exerting a happy influence upon the succeeding crops, we think it, besides being less expensive, the more judicious quantity. At all events, we would not recommend the application of more than 100 bushels to the acre, upon the *stiffest soil*, because we believe it amply sufficient for all the purposes of promoting healthful vegetation; and where the soil is a *sandy loam*, or gravelly loam, half that quantity in our opinion will answer.

2. Its offices consist in promoting the immediate decomposition of all vegetable substances which may be in or upon the ground—in attracting moisture—and by its antiseptic qualities, it neutralizes all noxious vapors which may surround it. In this way it greatly contributes to the promotion of the health of a place. While it gives tenacity to thin sands, it opens and renders friable clayey soils, thus rendering both better adapted to the purposes of the husbandman.

3. With respect to the number of years lime will act advantageously upon land, we would remark, that when once limed, with proper care in pursuing a rotation of crops, and the occasional ploughing in of a clover-lay, a crop of buckwheat, a grass sward, or dressings of long manure, it will last for an almost indefinite period: but the duration of its usefulness will mainly depend upon giving it matter to act upon.

4. From the preceding remarks it will appear obvious, that it is equally well adapted to all kinds of soils, with the exception of bogs and marshes, and these, before they can be made to derive any benefit from this mineral, must be *well drained*, and deprived of the water which they may contain.

Having answered the queries of our correspondent, we will make a few additional remarks, illustrative of our views with respect to the mode of applying it. In all cases it should be applied to soil upon which there is a good vegetable covering; and this is the more obvious from the circumstances of specific action being that of converting other materials into vegetable nutriment. Hence it follows as a matter of course, that the greater the vegetable body which may be upon the land, the more lime may be safely used.

We deem it proper to observe, that where clover-lays may be turned in with a view of sowing wheat, after the ground is ploughed, it should be permitted to remain for at least two weeks before the grain be sown, so as to let it undergo the more violent fermentation which is immediately consequent thereupon; and in spreading the lime, care should be taken to do it as evenly as possible, in order that its benefits may be as uniformly diffused as possible.

Those who wish to see this subject treated at large, we respectfully refer to the very able memoir from the pen of that eminent French chemist, M. *Puvis*, published in this work last year. But to those who may wish to see it compressed into a small compass, we would respectfully recommend the following brief though satisfactory article:

"*Lime.*—By the fermentation it induces, the earth is opened and divided; and by its absorbent and alkaline qualities it unites the oily watery parts of the soil. It seems also to possess the property of collecting the acid of the air, and of forming with it a combination of great use in vegetation. Thus robbing the soil of its oily particles, it will in time render it barren, unless supported with manures of an oily nature. Its great use upon a sandy soil is, by mechanically binding the loose particles, and thereby preventing the liquid parts of the manure from escaping out of the reach of the radical fibers of the plants. Upon clay the effect is different; for by means of the gentle fermentation it induces, the unsubdued soil is opened and divided; the manures laid on regularly, so as to come in contact with every part of it, and the fibers of the plants have full liberty to spread themselves. Although we cannot describe all the soils which lime operates beneficially upon, we can specify some upon which it does operate well. 1. Upon all soils, being drained, which contain an abundance of ligneous or woody matter, as reclaimed swamps, and upon those containing insoluble vegetable matter, i. e. matters which will not dissolve in water; by reason of their chemical combination, quick lime will be beneficial by rendering the inert matter soluble, and fitting it to become the food of plants. 2. Upon all soils deficient in calcareous, or carbonate of lime, be they even stiff clays or porous sand, mild lime, or lime, or lime that has become saturated with carbonic acid, is unquestionably beneficial. It corrects the mechanical defects of clays and sands—renders manure more beneficial, and the drafts less prejudicial. Quick lime soon becomes mild lime after it is commingled with the soil. As a general rule, carbonate of lime is beneficial upon all soils belonging to the primitive formation, and to transition formations that are deficient in this earth. In the use of this mineral, we see the importance of knowing the constituents of soils."

Pickling Beans—Preserving Seed Beans.

The Germans, who are good economists in household matters, have a plan of pickling green beans so as to preserve them for winter use.

This may be done by taking the beans in the pods before large enough to shell—string them—cut them into suitable pieces, and pack them down with salt. A board or something heavy should be put upon them to press them down and keep them below the pickle.

Beans large enough to shell may also be packed down in the same manner. In the winter or any time afterwards they may be taken out—soaked in fresh water, and then cooked as you would common green beans.

There is one thing in preserving beans for seed that should be attended to more generally than it is—viz. save the earliest. Among those beans which run or climb, there are many found at the bottom of the stalk which get quite ripe long before those at the top of the pole. These should be saved for seed. It is astonishing what a difference a little care in this respect will make in the course of a few years in the ripening of the crop.—*Maine Far.*

Reeling Silk.

We would again urge upon silk growers the importance of early acquiring the art of reeling silk. Besides the facilities it affords in transportation, ascertaining its weight, value, &c. it should be remembered that no process in manufacturing yields a better profit. Every farmer, therefore, who makes cocoons, in large or small quantities, should furnish his family with an improved silk reel. The expense of a reel is trifling, not exceeding $5 or $6, and will answer for several succeeding generations. It is highly important that farmers start right in the business, and in order to do this, they must be careful not to let this product of their farms pass out of their hands until they have bestowed as much labor upon it as their time and skill will admit. Every process in the growth and manufacture of silk gives the laborer a liberal profit, and all up to throwing may be done as well and as cheap in families as in factories.—*Silk Cult.*

Queen Cakes.—Take a pound of sugar, beat and sift it, a pound of well dried flour, a pound of butter, eight eggs, and a half a pound of currants, washed and picked: grate a nutmeg and an equal quantity of mace and cinnamon, work the butter to a cream, put in the sugar, beat the white of the eggs twenty minutes, and mix them with the butter and sugar. Then beat the yolk for half an hour and put them in the butter. Beat the whole together, and when it is ready for the oven, put in the flour, spices, and currants; sift a little sugar over them, and bake them in tins. —*Farmer and Mechanic.*

Sheep.—A correspondent has furnished us with the following receipt, which he says he knows from repeated experiments, to be "good for making strong and healthy sheep." It is easy, cheap, and well worthy of trial.

"When the sheep is shorn, dip a cloth in soft soap and rub the sheep all over—then dip the cloth in warm water and give the sheep a complete lather, and let it go.—*Ten. Far.*